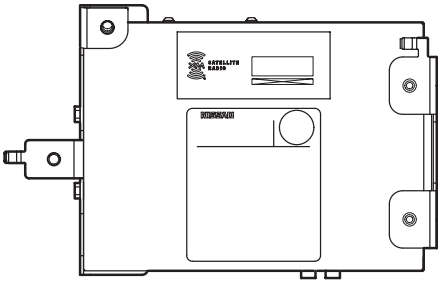
Clarion

Clarion Co., Ltd.
50 Kamitoda, Toda-shi, Saitama 335-8511 Japan
Service Dept.: 5-66 Azuma , Kitamoto-shi, Saitama 364-0007 Japan
Tel: +81-48-541-2335 / 2432 FAX: +81-48-541-2703

Published by Service Dept.
298-6213-00 Jan.2005
Printed in Japan

Service Manual



NISSAN Automobile Genuine
Satellite Tuner

Model EN-1187B
(Genuine No.28050 EH000)

SPECIFICATIONS

Receive range:	2332.5MHz to 2345.0MHz
Power supply voltage:	13.2V (10.8 to 16.6V allowable)
Power consumption:	Less than 1A(with Antenna)
Antenna current limit:	0.2A
Dimensions(mm):	178(W) x 30(H) x 130(D)
Weight:	1110g

COMPONENTS

EN-1187B-A

Main unit	----------	1

NOTES

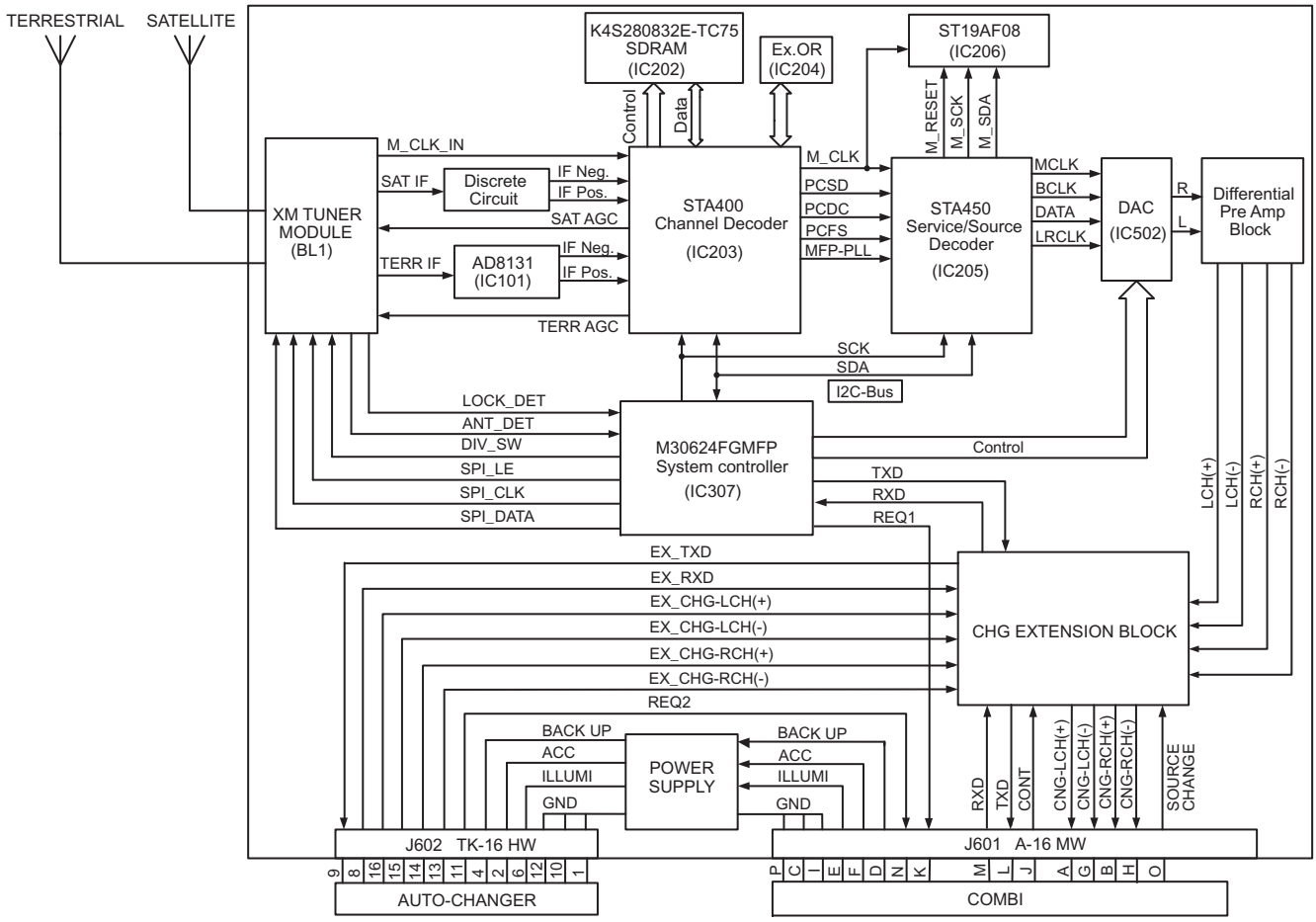
* Specifications and design are subject to change without notice for further improvement.
* We cannot supply PWB with component parts in principle. When a circuit on PWB has failure, please repair it by component parts base. Parts which are not mentioned in service manual are not supplied.

To engineers in charge of repair or inspection of our products.

Before repair or inspection, make sure to follow the instructions so that customers and Engineers in charge of repair or inspection can avoid suffering any risk or injury.

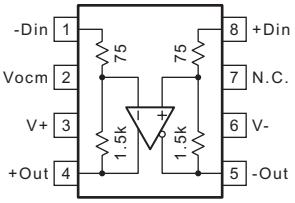
1. Use specified parts.
   The system uses parts with special safety features against fire and voltage. Use only parts with equivalent characteristics when replacing them.
   The use of unspecified parts shall be regarded as remodeling for which we shall not be liable. The onus of product liability (PL) shall not be our responsibility in cases where an accident or failure is as a result of unspecified parts being used.
2. Place the parts and wiring back in their original positions after replacement or re-wiring.
   For proper circuit construction, use of insulation tubes, bonding,gaps to PWB, etc, is involved. The wiring connection and routing to the PWB are specially planned using clamps to keep away from heated and high voltage parts. Ensure that they are placed back in their original positions after repair or inspection.
   If extended damage is caused due to negligence during repair, the legal responsibility shall be with the repairing company.
3. Check for safety after repair.
   Check that the screws, parts and wires are put back securely in their original position after repair. Ensure for safety reasons there is no possibility of secondary ploblems around the repaired spots.
   If extended damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
4. Caution in removal and making wiring connection to the parts for the automobile.
   Disconnect the battery terminal after turning the ignition key off. If wrong wiring connections are made with the battery connected, a short circuit and/or fire may occur. If extensive damage is caused due to negligence of repair, the legal responsibility shall be with the repairing company.
5. Cautions regarding chips.
   Do not reuse removed chips even when no abnormality is observed in their appearance. Always replace them with new ones. (The chip parts include resistors, capacitors, diodes, transistors, etc). The negative pole of tantalum capacitors is highly susceptible to heat, so use special care when replacing them and check the operation afterwards.
6. Cautions in handling flexible PWB
   Before working with a soldering iron, make sure that the iron tip temperature is around 270℃. Take care not to apply the iron tip repeatedly(more than three times)to the same patterns. Also take care not to apply the tip with force.
7. Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

BLOCK DIAGRAM

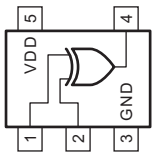


EXPLANATION OF IC

051-4611-90 AD8131ARM High-Speed Differential Driver



051-7278-08 SN74AHC1G86DCKR Single Exclusive OR Gate



051-6391-00 STA450 SERVICE LAYER & SOURCE DECODER

DESCRIPTION

The STA450 is designed for digital radio receivers, and integrates all the functions needed to perform the Service Layer and Source Decoding:

. Bitstream Synchronization
. Service Layer (SL) Demultiplexing
. Auxiliary Data Management
. Conditional Access (CA) Control
. Service Components Extraction
. Service Components Decryption
. Audio and Voice Decoding

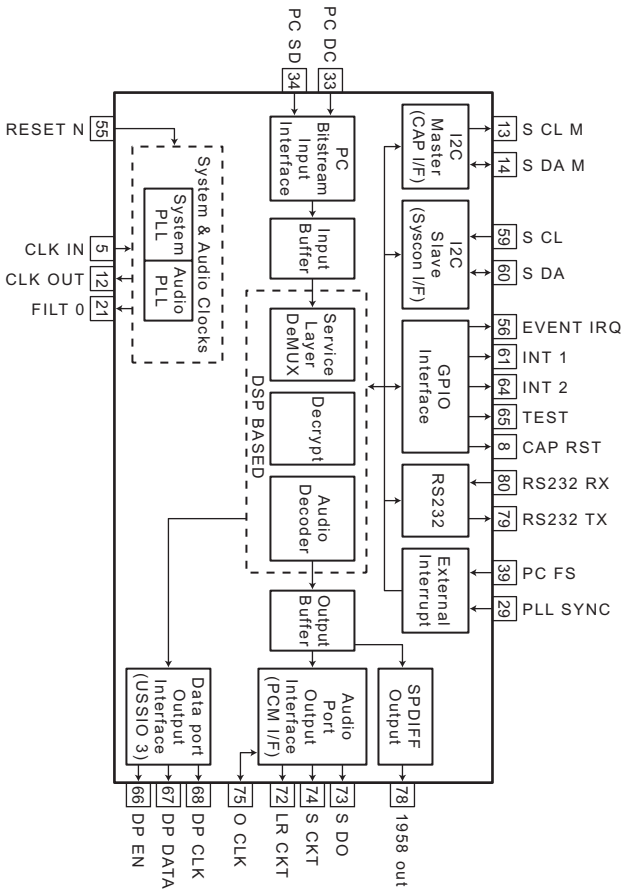
The extracted Audio and Data are made available through different interfaces:

. I2S Audio Output
. S/PDIF Output
. Data Port

Terminal Description

pin 1: NU : IN : Not Used (must be connected to ground in functional mode)
pin 2: GND : - : Ground.
pin 3: VDD : - : 2.5V Core Supply Voltage
pin 4: TEST 0 : IN : Test Pin (must be connected to ground in functional mode)
pin 5: CLK IN : IN : Clock Input
pin 6: NU : IN : Not Used (must be connected to ground in functional mode)
pin 7: TEST B : IN : Test Pin
pin 8: CAP RST : O : CAP Reset
pin 9: GND : - : Ground.
pin 10: VDD : - : 2.5V Core Supply Voltage
pin 11: VDD IO : - : 3.3V I/O Supply Voltage
pin 12: CLK OUT : O : Clock Out
pin 13: S CL M : O : I2C Master Serial Clock
pin 14: S DA M : I/O: I2C Master Serial Data
pin 15: GND : - : Ground.
pin 16: VDD : - : 2.5V Core Supply Voltage
pin 17: NU : IN : Not Used (must be connected to ground in functional mode)
pin 18: SCAN MODE : IN : Scan Mode (must be connected to ground in functional mode)

pin 19: A PLL GND : - : Analog Ground for Audio PLL
pin 20: A PLL VDD : - : 2.5V Analog Supply for Audio PLL
pin 21: FILT 0 : - : PLL Filter
pin 22: NU : - : Not Used (must be terminated with the same network as pin 21)
pin 23: GND : - : Ground.
pin 24: VDD : - : 2.5V Core Supply Voltage
pin 25: CLK M 1 : IN : Selection of Input Clock for the DSP core and peripherals
pin 26: CLK M 0 : IN : Selection of Input Clock for the DSP core and peripherals
pin 27: NU : IN : Not Used (must be connected to ground in functional mode)
pin 28: NU : IN : Not Used (must be connected to ground in functional mode)
pin 29: PLL SYNC : IN : Fractional Audio PLL Sync.
pin 30: GND : - : Ground.
pin 31: VDD : - : 2.5V Core Supply Voltage
pin 32: VDD IO : - : 3.3V I/O Supply Voltage
pin 33: PC DC : IN : PC Bitstream Data Clock
pin 34: PC SD : IN : PC Bitstream Serial Data
pin 35: NU : IN : Not Used (must be connected to ground in functional mode)
pin 36: NU : O : Not used
pin 37: GND : - : Ground.
pin 38: VDD : - : 2.5V Core Supply Voltage
pin 39: PC FS : IN : PC Bitstream PRC Frame Sync.
pin 40: NU : IN : Not Used (must be connected to ground in functional mode)
pin 41: NU : IN : Not Used (must be connected to ground in functional mode)
pin 42: NU : IN : Not Used (must be connected to ground in functional mode)
pin 43: NU : IN : Not Used (must be connected to ground in functional mode)
pin 44: GND : - : Ground.
pin 45: VDD : - : 2.5V Core Supply Voltage
pin 46: NU : IN : Not Used (must be connected to ground in functional mode)
pin 47: NU : IN : Not Used (must be connected to ground in functional mode)
pin 48: NU : IN : Not Used (must be connected to ground in functional mode)
pin 49: NU : IN : Not Used (must be connected to ground in functional mode)
pin 50: GND : - : Ground.
pin 51: VDD : - : 2.5V Core Supply Voltage
pin 52: VDD IO : - : 3.3V I/O Supply Voltage
pin 53: NU : IN : Not Used (must be connected to ground in functional mode)
pin 54: TEST 1 : IN : Test Pin
pin 55: RESET N : IN : HW Reset (active low)
pin 56: EVENT IRQ : O : General Interrupt (Events, Errors, Data ready)
pin 57: GND : - : Ground.
pin 58: VDD : - : 2.5V Core Supply Voltage
pin 59: S CL : IN : I2C Slave Serial Clock
pin 60: S DA : I/O : I2C Slave Serial Data
pin 61: INT 1 : O : Dedicated Errors Interrupt
pin 62: GND : - : Ground.
pin 63: VDD : - : 2.5V Core Supply Voltage
pin 64: INT 2 : O : Dedicated Errors Interrupt
pin 65: TEST : O : Test Pin
pin 66: DP EN : O : Data Port Enable
pin 67: DP DATA : O : Data Port Data
pin 68: DP CLK : O : Data Port Clock
pin 69: GND : - : Ground.
pin 70: VDD : - : 2.5V Core Supply Voltage
pin 71: VDD IO : - : 3.3V I/O Supply Voltage
pin 72: LR CKT : O : I2S Left & Right Clock
pin 73: S DO : O : I2S Output Data (PCM Data)
pin 74: S CKT : O : I2S Serial Clock
pin 75: O CLK : I/O : Oversampling Clock
pin 76: GND : - : Ground.
pin 77: VDD : - : 2.5V Core Supply Voltage
pin 78: 1958 OUT : O : S/PDIF Output
pin 79: RS232 TX : O : RS232 Transmitter
pin 80: RS232 RX : IN : RS232 Receiver (must be connected to ground in functional mode)



051-9327-00 K4S280832E-TC75 4M x 8bit x 4banks SDRAM

Terminal Description

pin 1: VDD : - : Positive voltage supply.
pin 2: DQ 0 : I/O : The data input / output.
pin 3: VDD Q : - : Positive power supply for the data I/O ports.
pin 4: NU : - : Not in use.
pin 5: DQ 1 : I/O : The data input / output.
pin 6: VSS Q : - : Ground terminal for the data I/O ports.
pin 7: NU : - : Not in use.
pin 8: DQ 2 : I/O : The data input / output.
pin 9: VDD Q : - : Positive power supply for the data I/O ports.
pin 10: NU : - : Not in use.
pin 11: DQ 3 : I/O : The data input / output.
pin 12: VSS Q : - : Ground terminal for the data I/O ports.
pin 13: NU : - : Not in use.
pin 14: VDD : - : Positive voltage supply.
pin 15: NU : - : Not in use.
pin 16: WE : IN : Write enable signal input.
pin 17: CAS : IN : Column address strobe input.
pin 18: RAS : IN : Raw address strobe input.
pin 19: CS IN : IN : The chip select command input.
pin 20: BA 0 : IN : Bank address input.
pin 21: BA 1 : IN : Bank address input.
pin 22: A 10 : IN : Address signal input.
pin 23: A 0 : IN : Address signal input.
pin 24: A 1 : IN : Address signal input.

pin 25: A 2 : IN : Address signal input.
pin 26: A 3 : IN : Address signal input.
pin 27: VDD : - : Positive voltage supply.
pin 28: VSS : - : Negative voltage supply.
pin 29: A 4 : IN : Address signal input.
pin 30: A 5 : IN : Address signal input.
pin 31: A 6 : IN : Address signal input.
pin 32: A 7 : IN : Address signal input.
pin 33: A 8 : IN : Address signal input.
pin 34: A 9 : IN : Address signal input.
pin 35: A 11 : IN : Address signal input.
pin 36: NU : - : Not in use.
pin 37: CKE : IN : Clock enable signal input.
pin 38: CLK : IN : The clock pulse input.
pin 39: DQM : IN : Makes data output Hi-Z, tSHZ after the clock and masks the output. Blocks data input when DQM active.
pin 40: NU : - : Not in use.
pin 41: VSS : - : Negative voltage supply.
pin 42: NU : - : Not in use.
pin 43: VDD Q : - : Positive power supply for the data I/O ports.
pin 44: DQ 4 : I/O: The data input / output.
pin 45: NU : - : Not in use.
pin 46: VSS Q : - : Ground terminal for the data I/O ports.
pin 47: DQ 5 : I/O: The data input / output.
pin 48: NU : - : Not in use.
pin 49: VDD Q : - : Positive power supply for the data I/O ports.
pin 50: DQ 6 : I/O: The data input / output.
pin 51: NU : - : Not in use.
pin 52: VSS Q : - : Ground terminal for the data I/O ports.
pin 53: DQ 7 : I/O: The data input / output.
pin 54: VSS : - : Negative voltage supply.

051-6390-00 STA400 CHANNEL DECODER

DESCRIPTION

STA400 Channel Decoder integrates all the functions to demodulate and decode the incoming satellite and terrestrial signals after the RF Front-End down-convertion:

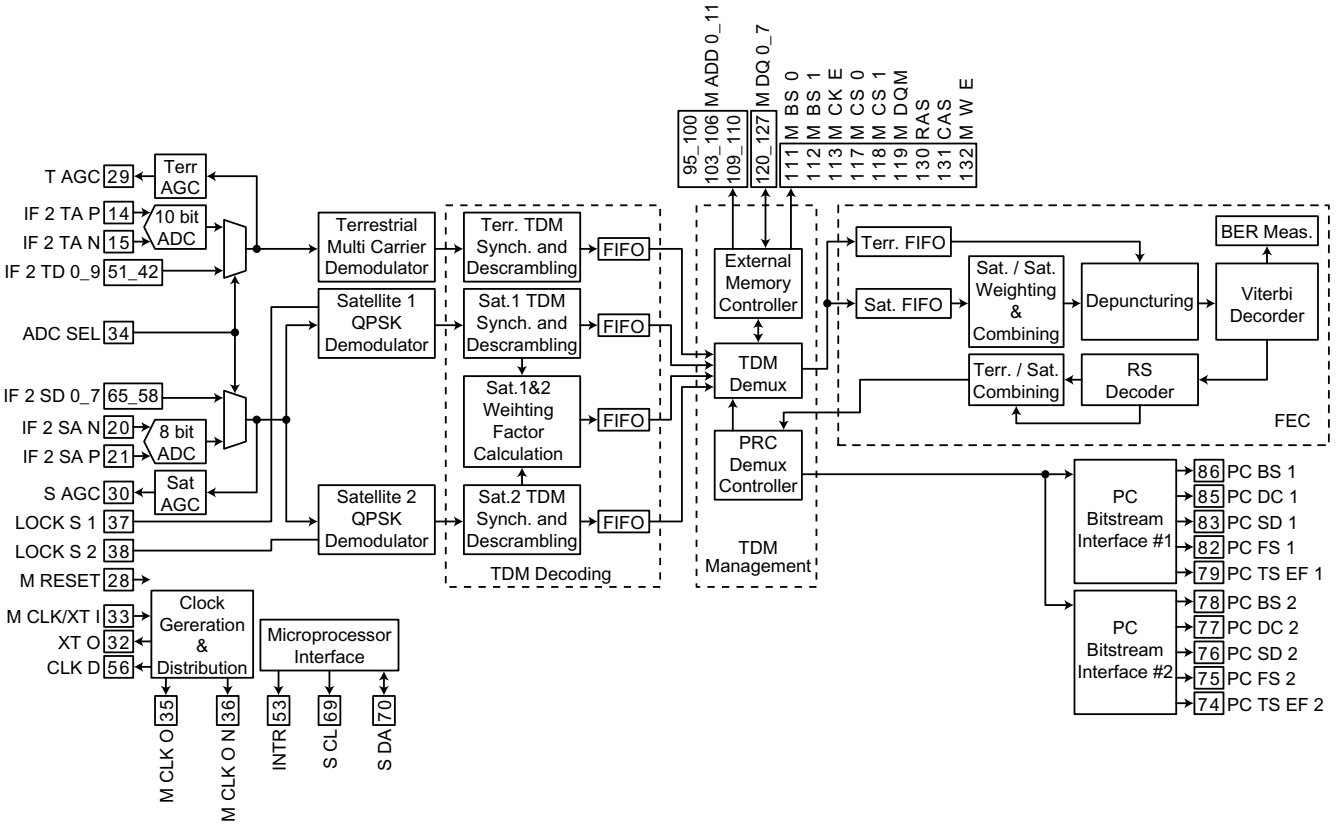
. Analog-to-Digital conversions
. Satellite and terrestrial demodulation
. AGC
. Frame synchronization and demultiplexing
. Viterbi decoding
. Time and spatial diversity combining
. Reed-Solomon decoding and deinterleaving
. Prime Rate Channel (PRC) demultiplexing
. Payload Channel (PC) selection

At the end of the demodulation and decoding processes a configurable serial data stream is made available to STA450, the Service/Source Decoder, via the PC Bitstream interface.

Terminal Description

pin 1: F TEST OUT 10: O : Configurable Functional Test Output
pin 2: F TEST OUT 11: O : Configurable Functional Test Output
pin 3: F TEST OUT 12: O : Configurable Functional Test Output
pin 4: F TEST OUT 13: O : Configurable Functional Test Output
pin 5: F TEST OUT 14: O : Configurable Functional Test Output
pin 6: F TEST OUT 15: O : Configurable Functional Test Output
pin 7: VDD : - : 2.5V Positive Supply Voltage
pin 8: VDD 3 : - : 3.3V Positive Supply Voltage
pin 9: VSS : - : Digital Ground
pin 10: Tref M : - : Terrestrial ADC Reference Negative Voltage
pin 11: Tref P : - : Terrestrial ADC Reference Positive Voltage
pin 12: T ADCref : - : Analog terminal. Terrestrial ADC Reference Adjust (external resistor to determine Ipol)
pin 13: T IN C M : O : Analog output. Terrestrial ADC Internal Common-Mode output for bypassing
pin 14: IF 2 TA P : IN : Analog input. Terrestrial 2nd IF Differential Input - Positive
pin 15: IF 2 TA N : IN : Analog input. Terrestrial 2nd IF Differential Input - Negative
pin 16: TV CMO : - : Analog terminal. Terrestrial ADC Internal Common Mode (filtered)
pin 17: A VDD : - : 2.5V Analog Positive Supply Voltage
pin 18: A GND : - : Analog Ground
pin 19: SV CMO : - : Analog terminal. Satellite ADC Internal Common Mode (filtered)
pin 20: IF 2 SA N : IN : Analog input. Satellite 2nd IF Differential Input - Negative
pin 21: IF 2 SA P : IN : Analog input. Satellite 2nd IF Differential Input - Positive
pin 22: S IN CM : O : Analog output Satellite ADC Internal Common-Mode output for bypassing
pin 23: S ADCref : - : Analog terminal. Satellite ADC Reference Adjust (external resistor to determine Ipol)
pin 24: Sref P : - : Satellite ADC Reference Positive Voltage
pin 25: Sref M : - : Satellite ADC Reference Negative Voltage
pin 26: A VDD : - : 2.5V Analog Positive Supply Voltage
pin 27: A GND : - : Analog Ground
pin 28: M Reset : IN : Master reset
pin 29: T AGC : O : Terrestrial AGC Control Signal
pin 30: S AGC : O : Satellite AGC Control Signal
pin 31: VSS : - : Digital Ground
pin 32: XTO : O : XTAL Output
pin 33: M CLK / XTI : IN : XTAL Input or Master Clock Input
pin 34: ADC SEL : IN : Selection between Internal or External ADC 0=Internal
pin 35: M CLK O : O : Master Clock Output
pin 36: M CLK O N : O : Inverted Master Clock Output
pin 37: LOCK S 1 : O : Satellite Dem1 Lock Indicator
pin 38: LOCK S 2 : O : Satellite Dem2 Lock Indicator
pin 39: VDD 3 : - : 3.3V Positive Supply Voltage
pin 40: VDD : - : 2.5V Positive Supply Voltage
pin 41: VSS : - : Digital Ground
pin 42: IF 2 TD 9 : IN : Terrestrial 2nd IF Digital Input
pin 43: IF 2 TD 8 : IN : Terrestrial 2nd IF Digital Input
pin 44: IF 2 TD 7 : IN : Terrestrial 2nd IF Digital Input
pin 45: IF 2 TD 6 : IN : Terrestrial 2nd IF Digital Input
pin 46: IF 2 TD 5 : IN : Terrestrial 2nd IF Digital Input
pin 47: IF 2 TD 4 : IN : Terrestrial 2nd IF Digital Input
pin 48: IF 2 TD 3 : IN : Terrestrial 2nd IF Digital Input
pin 49: IF 2 TD 2 : IN : Terrestrial 2nd IF Digital Input
pin 50: IF 2 TD 1 : IN : Terrestrial 2nd IF Digital Input
pin 51: IF 2 TD 0 : IN : Terrestrial 2nd IF Digital Input
pin 52: F TEST EN : IN : Functional Test Enable (1=enable)
pin 53: INTR : O : Interrupt
pin 54: VSS : - : Digital Ground
pin 55: VDD : - : 2.5V Positive Supply Voltage
pin 56: CLK D : O : Divided Master Clock
pin 57: NC : - : Not Connected. Reserved for Future Use.
pin 58: IF 2 SD 7 : IN : Satellite 2nd IF Digital Input
pin 59: IF 2 SD 6 : IN : Satellite 2nd IF Digital Input
pin 60: IF 2 SD 5 : IN : Satellite 2nd IF Digital Input
pin 61: IF 2 SD 4 : IN : Satellite 2nd IF Digital Input
pin 62: IF 2 SD 3 : IN : Satellite 2nd IF Digital Input
pin 63: IF 2 SD 2 : IN : Satellite 2nd IF Digital Input
pin 64: IF 2 SD 1 : IN : Satellite 2nd IF Digital Input
pin 65: IF 2 SD 0 : IN : Satellite 2nd IF Digital Input
pin 66: VDD 3 : - : 3.3V Positive Supply Voltage
pin 67: VDD : - : 2.5V Positive Supply Voltage
pin 68: VSS : - : Digital Ground
pin 69: S CL : IN : IIC-bus Serial Clock
pin 70: S DA : I/O: IIC-bus Serial Data
pin 71: TEST EN : IN : ATPG Test Enable (1=Enabled)
pin 72: SCAN EN : IN : Scan Enable (1=Enabled)
pin 73: BIST EN : IN : RAM Bilt In Self Test Enable (1=Enabled)
pin 74: PC TS EF 2 : O : Payload Channel TSCC Synch2/Error Flag 2

pin 75: PC FS 2 : O : Payload Channel Frame Sync 2
pin 76: PC SD 2 : O : Payload Channel Serial Data 2
pin 77: PC DC 2 : O : Payload Channel Data Clock 2
pin 78: PC BS 2 : O : Payload Channel Byte Synch 2 (RS Symbol)
pin 79: PC TS EF 1 : O : Payload Channel TSCC Synch1/ ErrorFlag1
pin 80: VDD : - : 2.5V Positive Supply Voltage
pin 81: VDD 3 : - : 3.3V Positive Supply Voltage
pin 82: PC FS 1 : O : Payload Channel Frame Sync 1
pin 83: PC SD 1 : O : Payload Channel Serial Data 1
pin 84: VSS : - : Digital Ground
pin 85: PC DC 1 : O : Payload Channel Data Clock 1
pin 86: PC BS 1 : O : Payload Channel Byte Synch 1 (RS Symbol)
pin 87: NC : - : Not Connected. Reserved for Future Use.
pin 88: NC : - : Not Connected. Reserved for Future Use.
pin 89: NC : - : Not Connected. Reserved for Future Use.
pin 90: VSS : - : Digital Ground
pin 91: VDD : - : 2.5V Positive Supply Voltage
pin 92: NC : - : Not Connected. Reserved for Future Use.
pin 93: NC : - : Not Connected. Reserved for Future Use.
pin 94: NC : - : Not Connected. Reserved for Future Use.
pin 95: M ADD 0 : O : External Memory Address
pin 96: M ADD 1 : O : External Memory Address
pin 97: M ADD 2 : O : External Memory Address
pin 98: M ADD 3 : O : External Memory Address
pin 99: M ADD 4 : O : External Memory Address
pin100: M ADD 5 : O : External Memory Address
pin101: VSS : - : Digital Ground
pin102: VDD 3 : - : 3.3V Positive Supply Voltage
pin103: M ADD 6 : O : External Memory Address
pin104: M ADD 7 : O : External Memory Address
pin105: M ADD 8 : O : External Memory Address
pin106: M ADD 9 : O : External Memory Address
pin107: VSS : - : Digital Ground
pin108: MFP CLK : O : TDM Master Frame Clock
pin109: M ADD 10 : O : External Memory Address
pin110: M ADD 11 : O : External Memory Address
pin111: M BS 0 : O : External Memory Block Selection
pin112: M BS 1 : O : External Memory Block Selection
pin113: M CK E : O : External Memory Clock Enable
pin114: VSS : - : Digital Ground
pin115: VDD : - : 2.5V Positive Supply Voltage
pin116: VDD 3 : - : 3.3V Positive Supply Voltage
pin117: M CS 0 : O : External Memory Chip Select
pin118: M CS 1 : O : External Memory Chip Select
pin119: M DQ M : O : External Memory Data Mask
pin120: M DQ 0 :I/O: External Memory Data Input Output
pin121: M DQ 1 :I/O: External Memory Data Input Output
pin122: M DQ 2 :I/O: External Memory Data Input Output
pin123: M DQ 3 :I/O: External Memory Data Input Output
pin124: M DQ 4 :I/O: External Memory Data Input Output
pin125: M DQ 5 :I/O: External Memory Data Input Output
pin126: M DQ 6 :I/O: External Memory Data Input Output
pin127: M DQ 7 :I/O: External Memory Data Input Output
pin128: VSS : - : Digital Ground
pin129: VDD : - : 2.5V Positive Supply Voltage
pin130: RAS : O : External Memory Row Address Strobe
pin131: CAS : O : External Memory Column Address Strobe
pin132: MWE : O : External Memory Write Enable
pin133: F TEST OUT 0: O : Configurable Functional Test Output
pin134: F TEST OUT 1: O : Configurable Functional Test Output
pin135: F TEST OUT 2: O : Configurable Functional Test Output
pin136: F TEST OUT 3: O : Configurable Functional Test Output
pin137: F TEST OUT 4: O : Configurable Functional Test Output
pin138: VSS : - : Digital Ground
pin139: VDD 3 : - : 3.3V Positive Supply Voltage
pin140: F TEST OUT 5: O : Configurable Functional Test Output
pin141: F TEST OUT 6: O : Configurable Functional Test Output
pin142: F TEST OUT 7: O : Configurable Functional Test Output
pin143: F TEST OUT 8: O : Configurable Functional Test Output
pin144: F TEST OUT 9: O : Configurable Functional Test Output



052-3712-08 ST19AF08BR20QMAA
Conditional Access Processor

Terminal Description

pin 1:	NU	: - :	Not in use.
pin 2:	NU	: - :	Not in use.
pin 3:	NU	: - :	Not in use.
pin 4:	Master CLCK	: IN :	The clock pulse input.
pin 5:	I2C CLCK	: IN :	The clock pulse input.
pin 6:	RESET	: IN :	Reset signal input.
pin 7:	NU	: - :	Not in use.
pin 8:	NU	: - :	Not in use.
pin 9:	VCC	: - :	Positive supply voltage.
pin 10:	NU	: - :	Not in use.
pin 11:	GND	: - :	Ground.
pin 12:	NU	: - :	Not in use.
pin 13:	NU	: - :	Not in use.
pin 14:	NU	: - :	Not in use.
pin 15:	NU	: - :	Not in use.
pin 16:	NU	: - :	Not in use.
pin 17:	I2C DATA	:I/O:	I2C data input/output.
pin 18:	NU	: - :	Not in use.
pin 19:	NU	: - :	Not in use.
pin 20:	NU	: - :	Not in use.

052-3713-03 M30624FGMFP System Controller

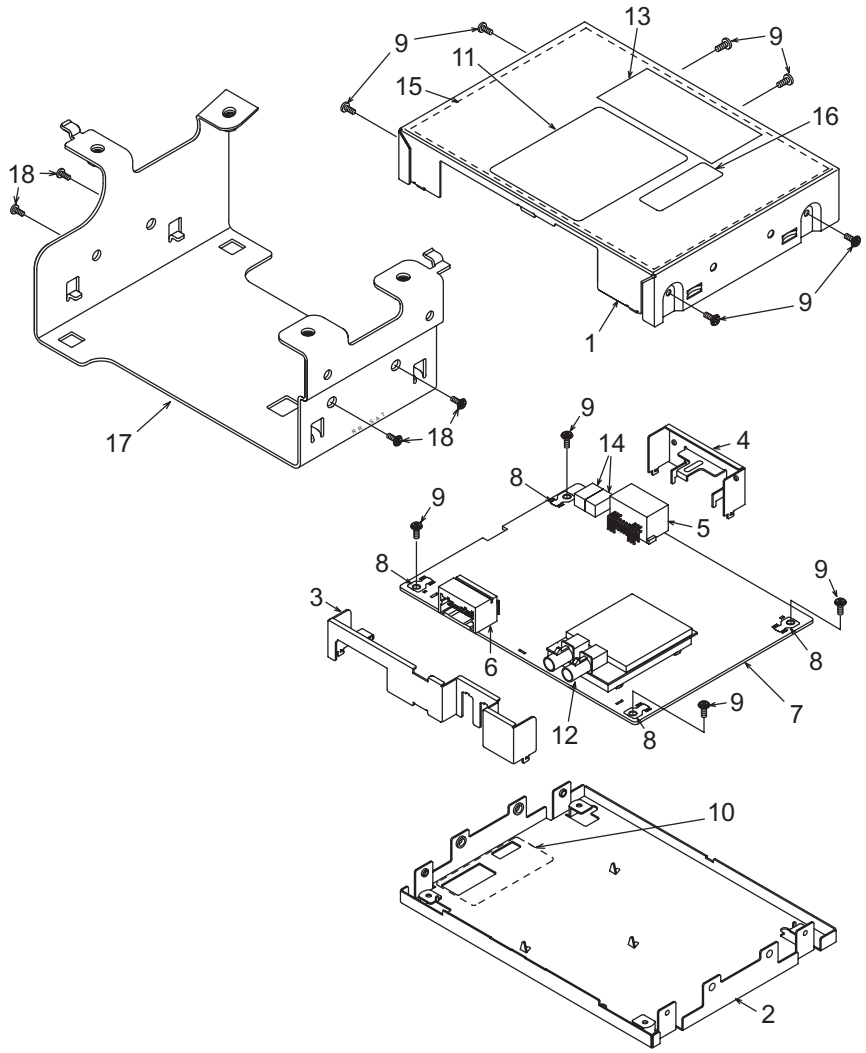
[NOTE] 052-3713-03 is the performance improvement IC of 052-3713-02, 052-3713-01 and 052-3713-00.

Please use 052-3713-03 in the case of repair.

Terminal Description

pin 1:	PW NET	: O :	ON signal output to the power supply section for NDS.
pin 2:	PW SDR	: O :	ON signal output to the power supply section for SDR.
pin 3:	NU	: - :	Not in use.
pin 4:	NU	: - :	Not in use.
pin 5:	NU	: - :	Not in use.
pin 6:	NU	: - :	Not in use.
pin 7:	AUDIO SW	: O :	Audio switch ON signal output.
pin 8:	BYTE	: IN :	Connect to the ground.
pin 9:	CN VSS	: IN :	Connect to VSS.
pin 10:	NU	: - :	Not in use.
pin 11:	NU	: - :	Not in use.
pin 12:	RESET	: IN :	Reset signal input.
pin 13:	X OUT	: O :	Crystal connection.
pin 14:	VSS	: - :	Negative supply voltage.
pin 15:	X IN	: IN :	Crystal connection.
pin 16:	VCC	: - :	Positive supply voltage.
pin 17:	PULL UP	: IN :	VCC 3.3V.
pin 18:	SYS ACC	: IN :	ACC detect signal input.
pin 19:	BU DET	: IN :	Backup detection signal input.
pin 20:	NU	: - :	Not in use.
pin 21:	NU	: - :	Not in use.
pin 22:	NU	: - :	Not in use.
pin 23:	NU	: - :	Not in use.
pin 24:	NU	: - :	Not in use.
pin 25:	NU	: - :	Not in use.
pin 26:	NU	: - :	Not in use.
pin 27:	NU	: - :	Not in use.
pin 28:	NDS REQ	: O :	NDS request signal output.
pin 29:	NDS RX	: IN :	NDS serial data input from NDS-A/C.
pin 30:	NDS TX	: O :	NDS serial data output to NDS-A/C.
pin 31:	FLASH TX	: O :	The serial data output for flash memory.
pin 32:	FLASH RX	: IN :	The serial data input for flash memory.
pin 33:	FLASH CLK	: O :	Clock pulse output for flash memory.
pin 34:	NU	: - :	Not in use.
pin 35:	NU	: - :	Not in use.
pin 36:	NU	: - :	Not in use.
pin 37:	NU	: - :	Not in use.
pin 38:	NU	: - :	Not in use.
pin 39:	NU	: - :	Not in use.
pin 40:	NU	: - :	Not in use.
pin 41:	FLASH EPM	: IN :	For flash memory.
pin 42:	NU	: - :	Not in use.
pin 43:	NU	: - :	Not in use.
pin 44:	NU	: - :	Not in use.
pin 45:	NU	: - :	Not in use.
pin 46:	FLASH CE	: IN :	Chip enable signal input for flash memory.
pin 47:	NU	: - :	Not in use.
pin 48:	NU	: - :	Not in use.
pin 49:	NU	: - :	Not in use.
pin 50:	SDR DBG	: IN :	For debug.
pin 51:	NU	: - :	Not in use.
pin 52:	NU	: - :	Not in use.
pin 53:	NU	: - :	Not in use.
pin 54:	NU	: - :	Not in use.
pin 55:	NU	: - :	Not in use.
pin 56:	NU	: - :	Not in use.
pin 57:	NU	: - :	Not in use.
pin 58:	NU	: - :	Not in use.
pin 59:	NU	: - :	Not in use.
pin 60:	NU	: - :	Not in use.
pin 61:	NU	: - :	Not in use.
pin 62:	NU	: - :	Not in use.
pin 63:	NU	: - :	Not in use.
pin 64:	NU	: - :	Not in use.
pin 65:	NU	: - :	Not in use.
pin 66:	NU	: - :	Not in use.
pin 67:	NU	: - :	Not in use.
pin 68:	NU	: - :	Not in use.
pin 69:	NU	: - :	Not in use.
pin 70:	NU	: - :	Not in use.
pin 71:	ANT DET	: IN :	The antenna connection flag input.
pin 72:	PLL LOCK DET	: IN :	PLL lock flag input.
pin 73:	NU	: - :	Not in use.
pin 74:	SSDEC INT	: IN :	SSDEC event interrupt.
pin 75:	CDEC INT	: IN :	CDEC interrupt signal input.
pin 76:	CDEC RST	: O :	CDEC reset pulse output.
pin 77:	SSDEC RST	: O :	SSDEC reset pulse output.
pin 78:	NU	: - :	Not in use.
pin 79:	I2C DATA	:I/O:	I2C data input/output.
pin 80:	I2C CLK	: O :	I2C clock pulse output.
pin 81:	SPI LE	: O :	SPI load enable flag output.
pin 82:	NU	: - :	Not in use.
pin 83:	SPI DATA	: O :	SPI data output.
pin 84:	NU	: - :	Not in use.
pin 85:	SPI CLK	: O :	SPI clock pulse output.
pin 86:	NU	: - :	Not in use.
pin 87:	DAC CKS	: O :	Clock pulse output to DAC.
pin 88:	NU	: - :	Not in use.
pin 89:	DAC DIF 1	: O :	Digital-input-format command output to DAC.
pin 90:	NU	: - :	Not in use.
pin 91:	DAC DIF 0	: O :	Digital input format.
pin 92:	DAC DEM	: O :	De-emphasis enable output to DAC.
pin 93:	NU	: - :	Not in use.
pin 94:	DAC RESET	: O :	Reset pulse output to DAC.
pin 95:	NU	: - :	Not in use.
pin 96:	A VSS	: - :	Analog ground.
pin 97:	NU	: - :	Not in use.
pin 98:	Vref	: - :	Reference voltage.
pin 99:	A VCC	: - :	Positive supply voltage for the internal analog section.
pin100:	NU	: - :	Not in use.

EXPLODED VIEW / PARTS LIST



NO.	PART NO.	DESCRIPTION	Q'TY
1	310-1758-10	UPPER CASE	1
2	311-1753-03	LOWER CASE	1
3	309-0790-10	FRONT PLATE	1
4	307-0690-00	REAR PLATE	1
5	074-1268-00	OUTLET SOCKET	1
6	074-1087-02	OUTLET SOCKET	1
7	----------	MAIN PWB	1
8	073-0768-90	TERMINAL	4
9	716-0878-00	IT SCREW(M2.6 x 5)	10

NO.	PART NO.	DESCRIPTION	Q'TY
10	347-6911-00	SPACER	1
11	286-6111-07	SETPLATE	1
12	060-7202-00	XM TUNER MODULE	1
13	290-8160-20	LABEL (XM ID)	1
14	014-0580-00	RELAY	2
15	347-6925-00	INSULATOR	1
16	----------	LABEL (SOFTWARE VERSION CODE)	1
17	300-8046-00	MOUNTING BRACKET	1
18	734-4008-31	D-SEMS-HEX-BOLT	4

ELECTRICAL PARTS LIST

Main PWB(B1) section

Note) Several different parts of the same reference number are alternative parts.
One of those parts is used in the set.

REF No.	PART No.	DESCRIPTION
BL1	060-7202-00	XM TUNER
C101	168-1042-78	16V 0.1uF
C102	166-1011-50	100pF CH
C103	168-1042-78	16V 0.1uF
C104	166-1011-50	100pF CH
C105	166-1011-50	100pF CH
C106	168-1042-78	16V 0.1uF
C107	178-2255-79	2.2uF
C108	166-2201-50	22pF CH
C109	168-1042-78	16V 0.1uF
C110	166-1011-50	100pF CH
C111	166-2201-50	22pF CH
C114	168-1042-78	16V 0.1uF
C116	168-1042-78	16V 0.1uF
C117	168-1042-78	16V 0.1uF
C118	166-1011-50	100pF CH
C119	168-1042-78	16V 0.1uF
C120	166-1011-50	100pF CH
C121	168-1042-78	16V 0.1uF
C122	178-2255-79	2.2uF
C123	168-1042-78	16V 0.1uF
C124	166-4701-50	47pF CH
C125	166-2701-50	27pF CH
C126	168-1042-78	16V 0.1uF
C127	166-1011-50	100pF CH
C128	168-1042-78	16V 0.1uF
C129	166-1011-50	100pF CH
C130	168-1042-78	16V 0.1uF
C131	166-1011-50	100pF CH
C132	168-1042-78	16V 0.1uF
C134	168-1042-78	16V 0.1uF
C135	166-1011-50	100pF CH
C136	168-1042-78	16V 0.1uF
C137	166-1011-50	100pF CH
C138	166-1011-50	100pF CH
C140	166-1011-50	100pF CH
C142	166-1011-50	100pF CH
C143	166-1011-50	100pF CH
C144	166-1011-50	100pF CH
C148	163-2263-35	16V22uF
C149	168-1042-78	16V 0.1uF
C150	168-1042-78	16V 0.1uF
C151	168-1022-55	1000pF K
C152	166-4701-50	47pF CH
C200	168-1042-78	16V 0.1uF
C201	168-1042-78	16V 0.1uF
C202	168-1032-55	0.01uF K
C203	168-1032-55	0.01uF K
C204	168-1042-78	16V 0.1uF
C205	168-1032-55	0.01uF K
C206	166-1011-50	100pF CH
C208	168-1022-55	1000pF K
C209	168-1042-78	16V 0.1uF
C210	168-1032-55	0.01uF K
C211	168-1032-55	0.01uF K
C212	168-1042-78	16V 0.1uF
C214	168-1032-55	0.01uF K
C215	177-2252-78	16V2.2uF
C216	168-1042-78	16V 0.1uF
C217	168-1042-78	16V 0.1uF
C218	168-1032-55	0.01uF K
C219	168-1022-55	1000pF K
C221	168-1032-55	0.01uF K
C223	168-1032-55	0.01uF K
C225	168-1042-78	16V 0.1uF
C227	168-1032-55	0.01uF K
C229	168-1022-55	1000pF K
C230	168-1042-78	16V 0.1uF
C231	168-1032-55	0.01uF K
C232	168-1032-55	0.01uF K
C233	168-1042-78	16V 0.1uF
C234	168-1042-78	16V 0.1uF
C235	168-1032-55	0.01uF K
C236	168-1032-55	0.01uF K
C237	168-1042-78	16V 0.1uF
C238	168-1032-55	0.01uF K
C239	168-1042-78	16V 0.1uF
C240	168-1032-55	0.01uF K
C241	168-1042-78	16V 0.1uF
C244	177-2252-78	16V2.2uF
C245	177-2252-78	16V2.2uF
C246	168-1042-78	16V 0.1uF
C247	168-1032-55	0.01uF K
C248	168-1042-78	16V 0.1uF
C249	168-1032-55	0.01uF K
C250	168-1042-78	16V 0.1uF
C251	168-1032-55	0.01uF K
C252	168-1042-78	16V 0.1uF
C253	168-1032-55	0.01uF K
C254	168-1042-78	16V 0.1uF
C255	168-1032-55	0.01uF K
C256	177-2252-78	16V2.2uF
C257	177-2252-78	16V2.2uF
C258	168-1032-55	0.01uF K
C259	168-1042-78	16V 0.1uF
C260	168-1042-78	16V 0.1uF
C261	168-1032-55	0.01uF K
C262	168-1032-55	0.01uF K
C263	168-1042-78	16V 0.1uF
C264	168-1042-78	16V 0.1uF
C266	168-1032-55	0.01uF K
C267	168-1042-78	16V 0.1uF
C269	168-1032-55	0.01uF K
C270	168-1042-78	16V 0.1uF
C271	168-1032-55	0.01uF K
C272	168-1032-55	0.01uF K
C273	168-1042-78	16V 0.1uF
C274	168-1032-55	0.01uF K
C275	168-1042-78	16V 0.1uF
C276	168-1032-55	0.01uF K
C277	168-1042-78	16V 0.1uF
C278	168-4732-78	0.047uF K
C279	166-4711-50	470pF CH
C280	168-1032-55	0.01uF K
C281	168-1042-78	16V 0.1uF
C282	168-1042-78	16V 0.1uF
C283	166-4711-50	470pF CH
C285	168-4732-78	0.047uF K
C286	168-1042-78	16V 0.1uF
C287	168-1042-78	16V 0.1uF
C288	168-1022-55	1000pF K
C289	168-1042-78	16V 0.1uF
C290	168-1032-55	0.01uF K
C291	168-1042-78	16V 0.1uF
C292	168-1022-55	1000pF K
C293	168-1032-55	0.01uF K
C294	168-1042-78	16V 0.1uF
C302	163-1073-15	6.3V100uF
C305	168-4732-78	0.047uF K
C306	042-0628-91	6.3V 330uF
C307	168-1042-78	16V 0.1uF
C308	163-2263-35	16V22uF
C309	168-1042-78	16V 0.1uF
C310	042-0648-50	35V 100uF AL
C311	168-1042-78	16V 0.1uF
C312	042-0628-91	6.3V 330uF
C313	042-0648-50	35V 100uF AL
C314	168-1045-56	0.1uF Z
C319	168-4732-78	0.047uF K
C320	168-1042-78	16V 0.1uF
C322	163-1063-35	16V10uF
C323	168-2232-55	0.022uF K
C330	168-1042-78	16V 0.1uF
C401	168-1022-55	1000pF K
C402	189-4773-31	16V470uF
C403	168-1042-78	16V 0.1uF
C405	043-0504-50	10V4.7uF
C406	168-1032-55	0.01uF K
C407	168-1032-55	0.01uF K
C408	163-1073-35	16V100uF
C409	168-1032-55	0.01uF K
C410	168-1032-55	0.01uF K
C411	163-1063-35	16V10uF
C412	168-1022-55	1000pF K
C413	163-1063-35	16V10uF
C414	163-1063-35	16V10uF
C415	168-1042-78	16V 0.1uF
C416	189-4773-22	10V470uF
C417	168-1032-55	0.01uF K
C418	168-1032-55	0.01uF K
C419	043-0504-50	10V4.7uF
C420	163-2263-35	16V22uF
C421	163-4763-15	6.3V47uF
C422	166-3301-50	33pF CH
C423	189-2273-22	10V220uF
C424	166-2201-50	22pF CH
C425	189-2273-22	10V220uF
C426	163-3363-25	10V33uF
C427	042-0416-54	16V 10uF M TAN
C428	168-1032-55	0.01uF K
C429	042-0416-54	16V 10uF M TAN
C430	168-1042-78	16V 0.1uF
C431	163-2263-35	16V22uF
C432	163-3363-25	10V33uF
C433	168-4722-55	4700pF K
C434	042-0416-54	16V 10uF M TAN
C435	166-2201-50	22pF CH
C436	168-4722-55	4700pF K
C437	166-3301-50	33pF CH
C439	168-4722-55	4700pF K
C440	189-2273-22	10V220uF
C441	189-2273-22	10V220uF
C442	168-4722-55	4700pF K
C443	163-1063-35	16V10uF
C444	168-1042-78	16V 0.1uF
C445	042-0648-50	35V 100uF AL
C446	178-4742-78	0.47uF
C447	042-0628-91	6.3V 330uF
C460	168-1042-78	16V 0.1uF
C461	168-1042-78	16V 0.1uF
C602	168-1042-78	16V 0.1uF
C605	168-1022-55	1000pF K
C606	168-1022-55	1000pF K
C607	168-1022-55	1000pF K
C608	168-1022-55	1000pF K
C609	168-1022-55	1000pF K
C610	168-1022-55	1000pF K
C611	168-1022-55	1000pF K
C612	168-1022-55	1000pF K
C613	168-1022-55	1000pF K
C614	168-1022-55	1000pF K
CCT201	050-0140-67	1/32W 220 ohm x4J
CCT202	050-0140-67	1/32W 220 ohm x4J
CCT203	050-0140-67	1/32W 220 ohm x4J
CCT204	050-0140-67	1/32W 220 ohm x4J
CCT205	050-0140-67	1/32W 220 ohm x4J
CCT206	050-0140-67	1/32W 220 ohm x4J
CCT207	050-0140-67	1/32W 220 ohm x4J
CCT208	050-0140-67	1/32W 220 ohm x4J
CCT209	050-0140-67	1/32W 220 ohm x4J
CCT210	050-0140-67	1/32W 220 ohm x4J
D303	001-2619-90	CMS01(TE85L)
D401	001-2015-00	RL253

REF No.	PART No.	DESCRIPTION
D402	001-4305-25	UDZSTE-17 9.1B
D404	001-4305-26	UDZSTE-17 10B
D406	001-0644-90	MA113
D407	001-0644-90	MA113
D409	001-0644-90	MA113
D410	001-0644-90	MA113
D411	001-0644-90	MA113
D412	001-4305-16	UDZSTE-17
D414	001-4306-09	HZU5ALLTRF
D601	001-2408-90	U2BC44
D602	001-2408-90	U2BC44
D603	001-2403-90	M1F60
D604	001-4305-26	UDZSTE-17 10B
D605	001-4305-26	UDZSTE-17 10B
D606	001-4305-26	UDZSTE-17 10B
D607	001-4305-26	UDZSTE-17 10B
D608	001-4305-26	UDZSTE-17 10B
D609	001-4305-26	UDZSTE-17 10B
FIL101	060-3110-90	NFM4516P13C204 FBI
FIL401	060-3113-95	NFM2012R13C102R
FIL402	060-3113-95	NFM2012R13C102R
FIL404	060-3110-90	NFM4516P13C204 FBI
FIL601	060-3113-95	NFM2012R13C102R
FIL602	060-3113-95	NFM2012R13C102R
FIL603	060-3113-95	NFM2012R13C102R
FIL604	060-3113-95	NFM2012R13C102R
FIL605	060-3113-95	NFM2012R13C102R
IC101	051-4611-90	AD8131ARM
IC202	051-9327-00	K4S280832E-TC75
IC203	051-6390-00	STA400
IC204	051-7278-08	SN74AHC1G86 DCKR
IC205	051-6391-00	STA450
IC206	052-3712-08	ST19AF08BR20 QMAA
IC301	051-5437-08	S-80821ANMP-EDJ-E2
IC302	051-3271-91	PQ070XZ01ZP
IC303	051-5417-08	S-80927CNMC-G8X
IC305	051-3226-90	PQ1CZ1
IC307	052-3713-03	M30624FGMFP
IC402	051-1407-90	NJM4556AM
IC403	051-1407-90	NJM4556AM
IC404	051-3215-90	PQ20VZ5U
IC502	051-6386-08	AK4352VT E-2
IC601	051-7232-08	74VHC4066M
J601	074-1087-02	16P
J602	074-1268-00	16P
L301	010-3402-55	22uH
L401	010-2285-66	BLM41P750SPB
Q301	125-0014-92	DTA114EK
Q302	192-2712-00	2SC2712
Q401	193-1758-00	2SD1758TK P,Q,R
Q402	190-1162-00	2SA1162
Q404	125-0014-92	DTA114EK
Q406	125-2004-92	RN1402
Q407	125-2004-92	RN1402
Q409	192-2712-00	2SC2712
Q410	192-2712-00	2SC2712
Q411	193-1664-00	2SD1664 P,Q,R
Q412	193-1802-61	2SD1802FA R,S,T
Q413	125-0014-92	DTA114EK
Q416	192-2712-00	2SC2712
Q417	125-2004-92	RN1402
Q418	193-1306-00	2SD1306
Q419	193-1306-00	2SD1306
Q420	193-1306-00	2SD1306
Q421	193-1306-00	2SD1306
Q422	125-2004-92	RN1402
Q423	190-1162-00	2SA1162
Q601	125-0021-91	DTA114EU
Q602	192-4081-00	2SC4081

REF No.	PART No.	DESCRIPTION
Q603	125-0021-91	DTA114EU
Q604	192-4081-00	2SC4081
Q605	190-1162-00	2SA1162
Q606	125-2004-92	RN1402
R101	119-1021-15	1/10W 1k ohm
R102	119-6821-15	1/10W 6.8k ohm
R103	119-1821-15	1/10W 1.8k ohm
R104	119-6811-15	1/10W 680 ohm
R105	119-5101-15	1/10W 51 ohm
R106	032-0140-62	1/10W 1k ohm F
R107	032-0140-62	1/10W 1k ohm F
R109	119-5101-15	1/10W 51 ohm
R110	119-1011-15	1/10W 100 ohm
R111	119-6811-15	1/10W 680 ohm
R112	032-0140-62	1/10W 1k ohm F
R113	032-0140-62	1/10W 1k ohm F
R114	032-0140-13	1/10W 33 ohm F
R115	032-0140-13	1/10W 33 ohm F
R116	119-6821-15	1/10W 6.8k ohm
R117	119-1821-15	1/10W 1.8k ohm
R118	119-1021-15	1/10W 1k ohm
R119	119-2231-15	1/10W 22k ohm
R120	119-2231-15	1/10W 22k ohm
R123	119-1031-15	1/10W 10k ohm
R124	119-1031-15	1/10W 10k ohm
R125	119-1031-15	1/10W 10k ohm
R126	119-1031-15	1/10W 10k ohm
R127	119-1001-15	1/10W 10 ohm
R128	119-1011-15	1/10W 100 ohm
R129	119-1011-15	1/10W 100 ohm
R130	119-1011-15	1/10W 100 ohm
R201	119-1031-15	1/10W 10k ohm
R202	119-1031-15	1/10W 10k ohm
R203	119-1031-15	1/10W 10k ohm
R204	119-1031-15	1/10W 10k ohm
R205	119-1031-15	1/10W 10k ohm
R206	119-1211-15	1/10W 120 ohm
R207	119-1211-15	1/10W 120 ohm
R208	119-1211-15	1/10W 120 ohm
R218	119-1031-15	1/10W 10k ohm
R219	119-2731-15	1/10W 27k ohm
R220	119-0000-05	1/10W 0 ohm JW
R231	119-2731-15	1/10W 27k ohm
R232	119-2731-15	1/10W 27k ohm
R239	119-1021-15	1/10W 1k ohm
R241	119-2211-15	1/10W 220 ohm
R242	119-2201-15	1/10W 22 ohm
R243	119-2211-15	1/10W 220 ohm
R244	119-2731-15	1/10W 27k ohm
R245	119-2731-15	1/10W 27k ohm
R246	119-2731-15	1/10W 27k ohm
R247	119-2201-15	1/10W 22 ohm
R248	119-4721-15	1/10W 4.7k ohm
R249	119-4721-15	1/10W 4.7k ohm
R250	119-4721-15	1/10W 4.7k ohm
R251	119-2201-15	1/10W 22 ohm
R252	119-1011-15	1/10W 100 ohm
R253	119-2731-15	1/10W 27k ohm
R254	119-2211-15	1/10W 220 ohm
R255	119-2211-15	1/10W 220 ohm
R256	119-2211-15	1/10W 220 ohm
R258	119-2731-15	1/10W 27k ohm
R259	119-1031-15	1/10W 10k ohm
R260	119-1031-15	1/10W 10k ohm
R261	119-0000-05	1/10W 0 ohm JW
R262	119-2731-15	1/10W 27k ohm
R263	119-0000-05	1/10W 0 ohm JW
R266	119-2731-15	1/10W 27k ohm
R267	119-2731-15	1/10W 27k ohm
R268	119-2731-15	1/10W 27k ohm
R269	119-1021-15	1/10W 1k ohm
R270	119-1031-15	1/10W 10k ohm
R271	119-1031-15	1/10W 10k ohm
R272	119-2211-15	1/10W 220 ohm

REF No.	PART No.	DESCRIPTION
R273	119-4721-15	1/10W 4.7k ohm
R274	119-4721-15	1/10W 4.7k ohm
R275	119-2211-15	1/10W 220 ohm
R276	119-2211-15	1/10W 220 ohm
R280	119-0000-05	1/10W 0 ohm JW
R281	119-2211-15	1/10W 220 ohm
R282	119-2211-15	1/10W 220 ohm
R301	119-1011-15	1/10W 100 ohm
R302	119-1011-15	1/10W 100 ohm
R303	119-1011-15	1/10W 100 ohm
R304	119-1011-15	1/10W 100 ohm
R305	119-1011-15	1/10W 100 ohm
R308	119-1011-15	1/10W 100 ohm
R309	119-1011-15	1/10W 100 ohm
R310	119-1011-15	1/10W 100 ohm
R311	119-1011-15	1/10W 100 ohm
R312	119-1011-15	1/10W 100 ohm
R313	119-4731-15	1/10W 47k ohm
R314	119-1211-15	1/10W 120 ohm
R315	119-4731-15	1/10W 47k ohm
R316	119-1211-15	1/10W 120 ohm
R317	119-1041-15	1/10W 100k ohm
R318	119-1211-15	1/10W 120 ohm
R319	119-8211-15	1/10W 820 ohm
R321	119-1001-15	1/10W 10 ohm
R322	119-4721-15	1/10W 4.7k ohm
R323	119-1001-15	1/10W 10 ohm
R324	119-1041-15	1/10W 100k ohm
R325	119-1041-15	1/10W 100k ohm
R326	119-1031-15	1/10W 10k ohm
R327	119-4731-15	1/10W 47k ohm
R328	119-4721-15	1/10W 4.7k ohm
R331	119-1041-15	1/10W 100k ohm
R332	119-1041-15	1/10W 100k ohm
R333	119-1021-15	1/10W 1k ohm
R334	119-1021-15	1/10W 1k ohm
R335	119-1001-15	1/10W 10 ohm
R336	119-1011-15	1/10W 100 ohm
R337	119-2201-15	1/10W 22 ohm
R338	119-2201-15	1/10W 22 ohm
R339	119-2201-15	1/10W 22 ohm
R340	119-1621-15	1/10W 1.6k ohm
R341	119-2201-15	1/10W 22 ohm
R342	119-1021-15	1/10W 1k ohm
R343	119-1011-15	1/10W 100 ohm
R344	119-1011-15	1/10W 100 ohm
R345	116-4791-15	1/4W 4.7 ohm
R346	116-4791-15	1/4W 4.7 ohm
R401	119-1041-15	1/10W 100k ohm
R402	119-4711-15	1/10W 470 ohm
R403	119-2231-15	1/10W 22k ohm
R406	119-4711-15	1/10W 470 ohm
R407	119-5631-15	1/10W 56k ohm
R408	119-5631-15	1/10W 56k ohm
R409	119-1031-15	1/10W 10k ohm
R410	119-5621-15	1/10W 5.6k ohm
R412	119-1031-15	1/10W 10k ohm
R415	119-5631-15	1/10W 56k ohm
R416	119-2711-15	1/10W 270 ohm
R417	119-1541-15	1/10W 150k ohm
R418	119-1021-15	1/10W 1k ohm
R419	119-1001-15	1/10W 10 ohm
R420	119-1031-15	1/10W 10k ohm
R422	119-1031-15	1/10W 10k ohm
R423	119-4731-15	1/10W 47k ohm
R424	119-1031-15	1/10W 10k ohm
R425	119-2201-15	1/10W 22 ohm
R426	119-2201-15	1/10W 22 ohm
R427	119-1031-15	1/10W 10k ohm
R428	119-1031-15	1/10W 10k ohm
R429	119-3931-15	1/10W 39k ohm
R430	119-2221-15	1/10W 2.2k ohm
R431	119-2221-15	1/10W 2.2k ohm
R432	119-8221-15	1/10W 8.2k ohm

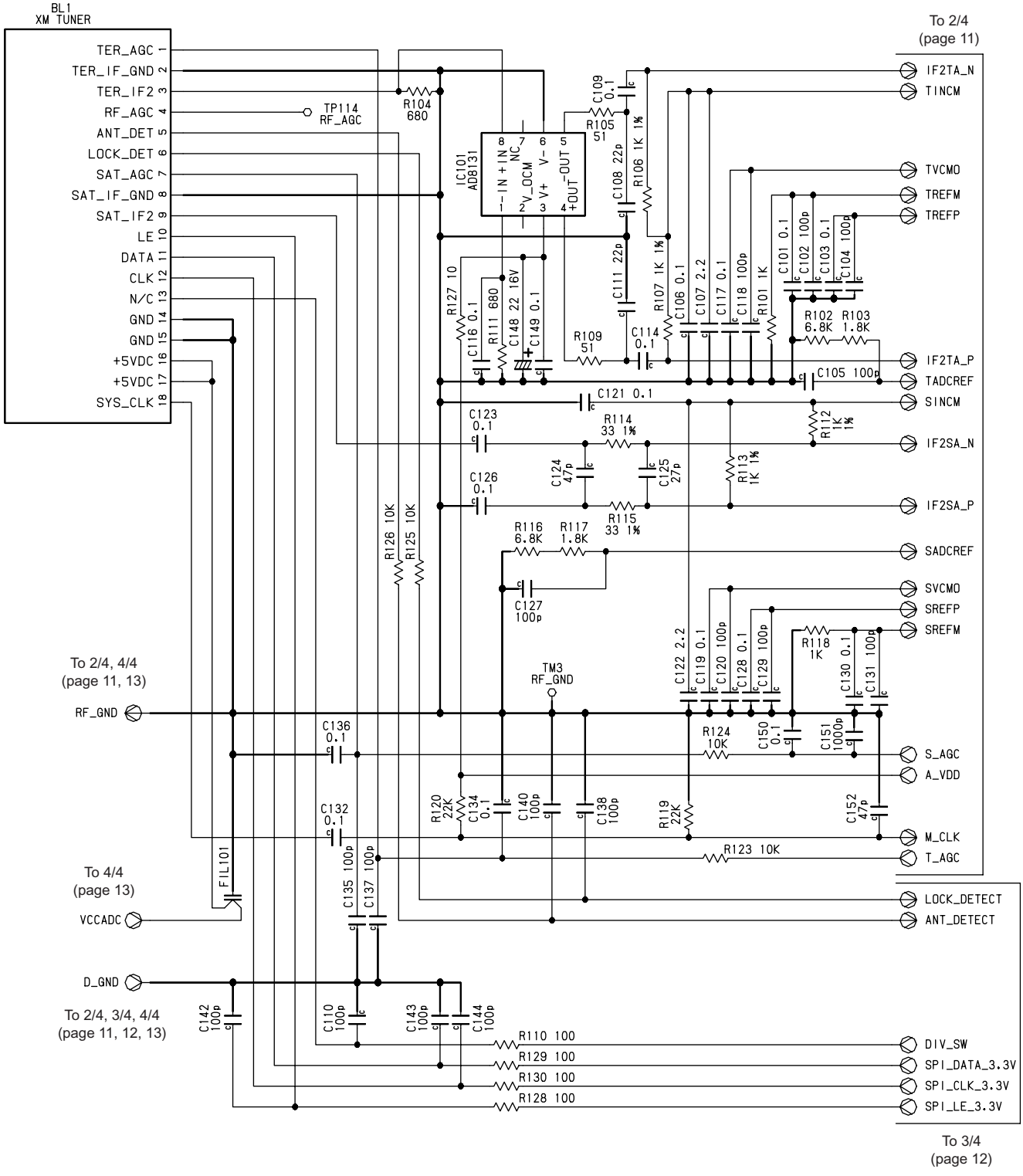
REF No.	PART No.	DESCRIPTION
R433	119-1031-15	1/10W 10k ohm
R434	119-1031-15	1/10W 10k ohm
R435	119-1031-15	1/10W 10k ohm
R436	119-1031-15	1/10W 10k ohm
R437	119-1031-15	1/10W 10k ohm
R438	119-3931-15	1/10W 39k ohm
R439	119-1031-15	1/10W 10k ohm
R440	119-1031-15	1/10W 10k ohm
R441	119-2221-15	1/10W 2.2k ohm
R442	119-2221-15	1/10W 2.2k ohm
R443	119-1031-15	1/10W 10k ohm
R444	119-2201-15	1/10W 22 ohm
R447	119-1031-15	1/10W 10k ohm

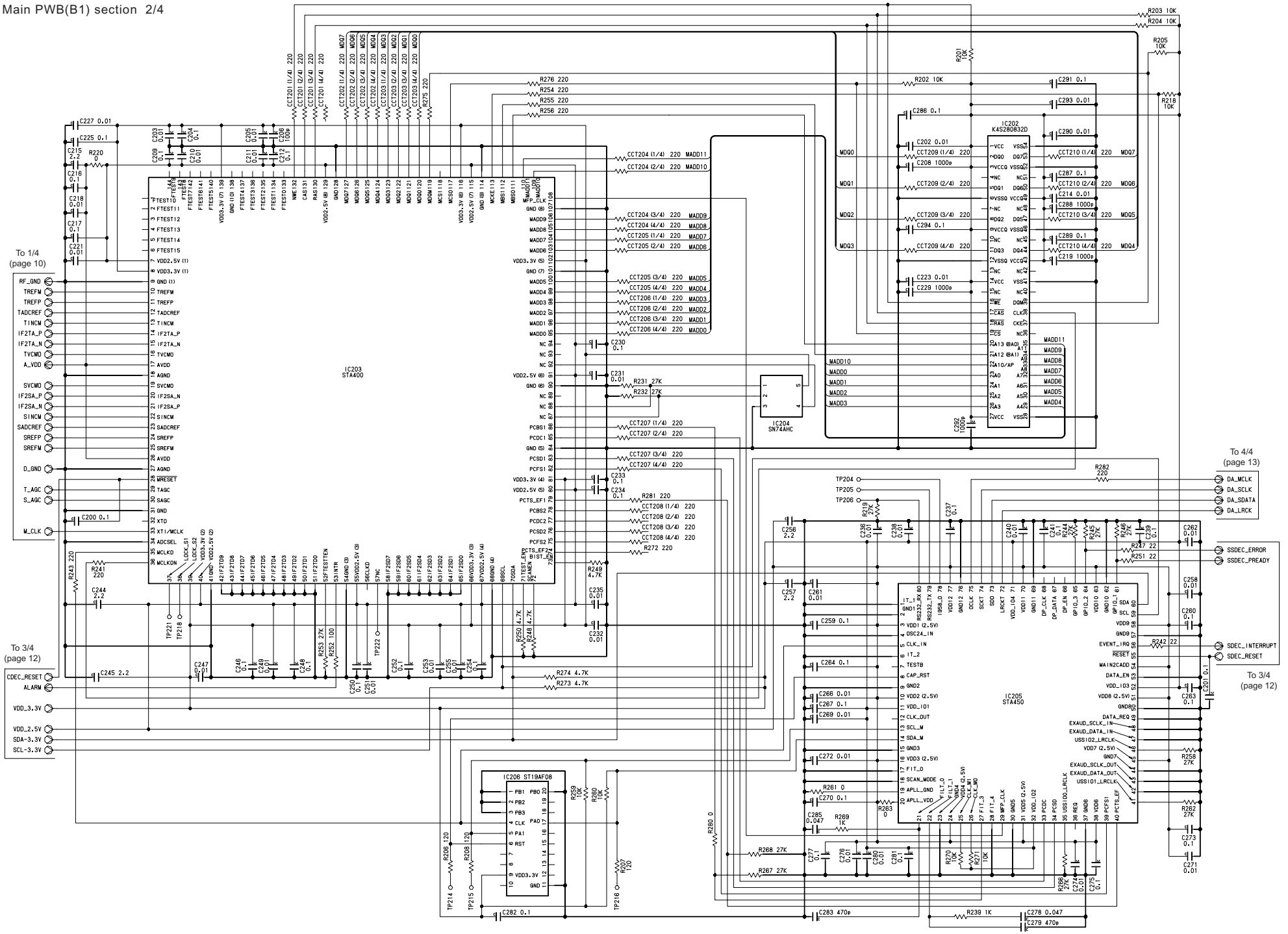
REF No.	PART No.	DESCRIPTION
R448	119-1521-15	1/10W 1.5k ohm
R449	119-1521-15	1/10W 1.5k ohm
R450	119-2201-15	1/10W 22 ohm
R452	119-1001-15	1/10W 10 ohm
R453	119-1021-15	1/10W 1k ohm
R454	119-1031-15	1/10W 10k ohm
R455	119-1031-15	1/10W 10k ohm
R457	119-0000-05	1/10W 0 ohm JW
R601	119-3331-15	1/10W 33k ohm
R602	119-4721-15	1/10W 4.7k ohm
R603	119-1031-15	1/10W 10k ohm
R604	119-3331-15	1/10W 33k ohm
R605	119-4731-15	1/10W 47k ohm

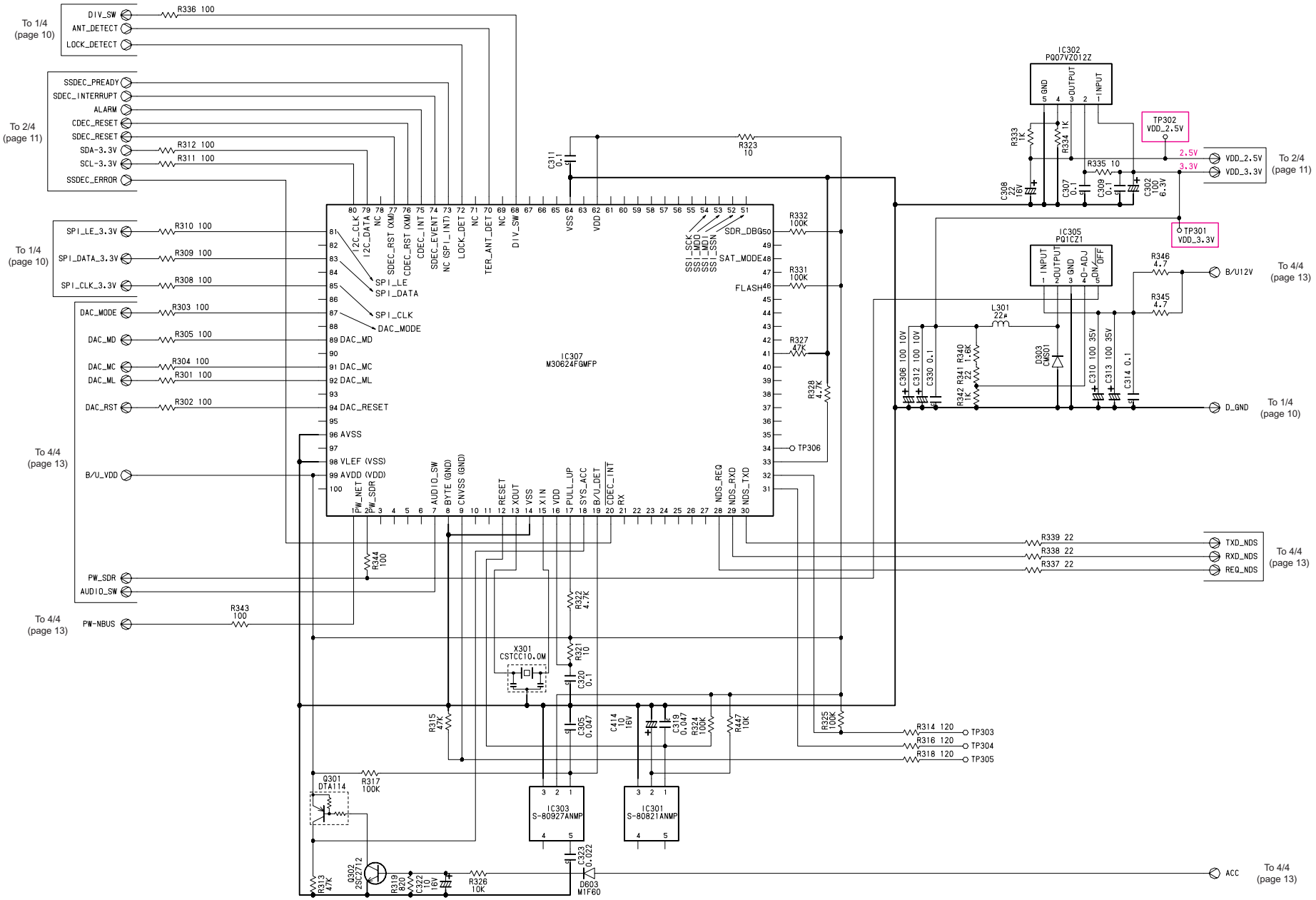
REF No.	PART No.	DESCRIPTION
R606	119-4721-15	1/10W 4.7k ohm
R607	119-2231-15	1/10W 22k ohm
RY601	014-0580-00	A 12W-K
RY602	014-0580-00	A 12W-K
T401	009-9008-80	CHOKE 0.7mH
TM1	073-0768-90	TERMINAL
TM2	073-0768-90	TERMINAL
TM3	073-0768-90	TERMINAL
TM4	073-0768-90	TERMINAL
X301	060-1505-50	CSTCC10.0MG-TC
PWB	039-2676-00	PWB(WITHOUT COMPONENT)

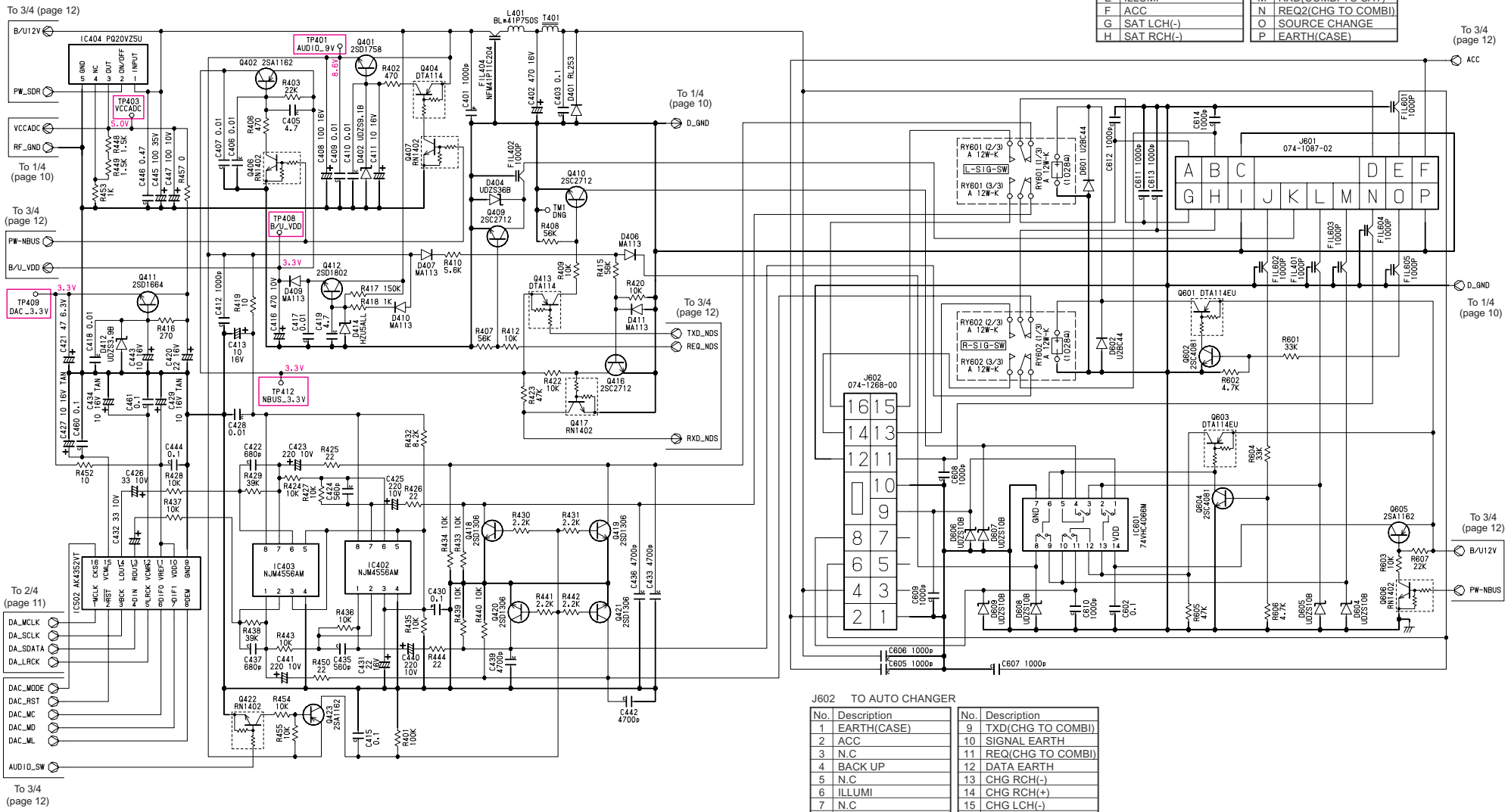
CIRCUIT DIAGRAM

Main PWB(B1) section 1/4




IC203
STA400
IC202
K4S280832D
IC204
SN74AHC
IC205
STA450
IC206 ST19AF08
To 1/4
(page 10)
To 3/4
(page 12)
To 4/4
(page 13)
To 3/4
(page 12)
RF_GND
TREFM
TREFP
TADCREF
TINCM
IF2TA_P
IF2TA_N
TVCMO
A_VDD
SVCMO
IF2SA_P
IF2SA_N
SINCM
SADCREF
SREFP
SREFM
D_GND
T_AGC
S_AGC
M_CLK
CDEC_RESET
ALARM
VDD_3.3V
VDD_2.5V
SDA-3.3V
SCL-3.3V
DA_MCLK
DA_SCLK
DA_SDATA
DA_LRCK
SSDEC_ERROR
SSDEC_PREADY
SDEC_INTERRUPT
SDEC_RESET
MADD11
MADD10
MADD9
MADD8
MADD7
MADD6
MADD5
MADD4
MADD3
MADD2
MADD1
MADD0
MDQ0
MDQ1
MDQ2
MDQ3
MDQ4
MDQ5
MDQ6
MDQ7


IC307
M30624FGMFP
IC302
PQ07VZ012Z
IC305
PQ1CZ1
IC303
S-80927ANMP
IC301
S-80821ANMP
X301
CSTCC10.0M
Q301
DTA114
Q302
2SC2712
D303
CMS01
D603
M1F60
L301
22μ
TP302
VDD_2.5V
TP301
VDD_3.3V
TP303
TP304
TP305
TP306
2.5V
3.3V
DIV_SW
ANT_DETECT
LOCK_DETECT
SSDEC_PREADY
SDEC_INTERRUPT
ALARM
CDEC_RESET
SDEC_RESET
SDA-3.3V
SCL-3.3V
SSDEC_ERROR
SPI_LE_3.3V
SPI_DATA_3.3V
SPI_CLK_3.3V
DAC_MODE
DAC_MD
DAC_MC
DAC_ML
DAC_RST
B/U_VDD
PW_SDR
AUDIO_SW
PW-NBUS
SPI_LE
SPI_DATA
SPI_CLK
DAC_MODE
DAC_MD
DAC_MC
DAC_ML
DAC_RESET
AVSS
VLEF (VSS)
AVDD (VDD)
SDR_DBG
SAT_MODE
FLASH
TXD_NDS
RXD_NDS
REQ_NDS
B/U12V
D_GND
ACC
VDD_2.5V
VDD_3.3V
To 1/4 (page 10)
To 2/4 (page 11)
To 4/4 (page 13)



J601 TO COMBI

No.	Description
A	SAT LCH(+)
B	SAT RCH(+)
C	DATA EARTH
D	BACK UP
E	ILLUMI
F	ACC
G	SAT LCH(-)
H	SAT RCH(-)

No.	Description
I	SIGNAL EARTH
J	CONT
K	REQ1(SAT TO COMBI)
L	TXD(SAT TO COMBI)
M	RXD(COMBI TO SAT)
N	REQ2(CHG TO COMBI)
O	SOURCE CHANGE
P	EARTH(CASE)

J602 TO AUTO CHANGER

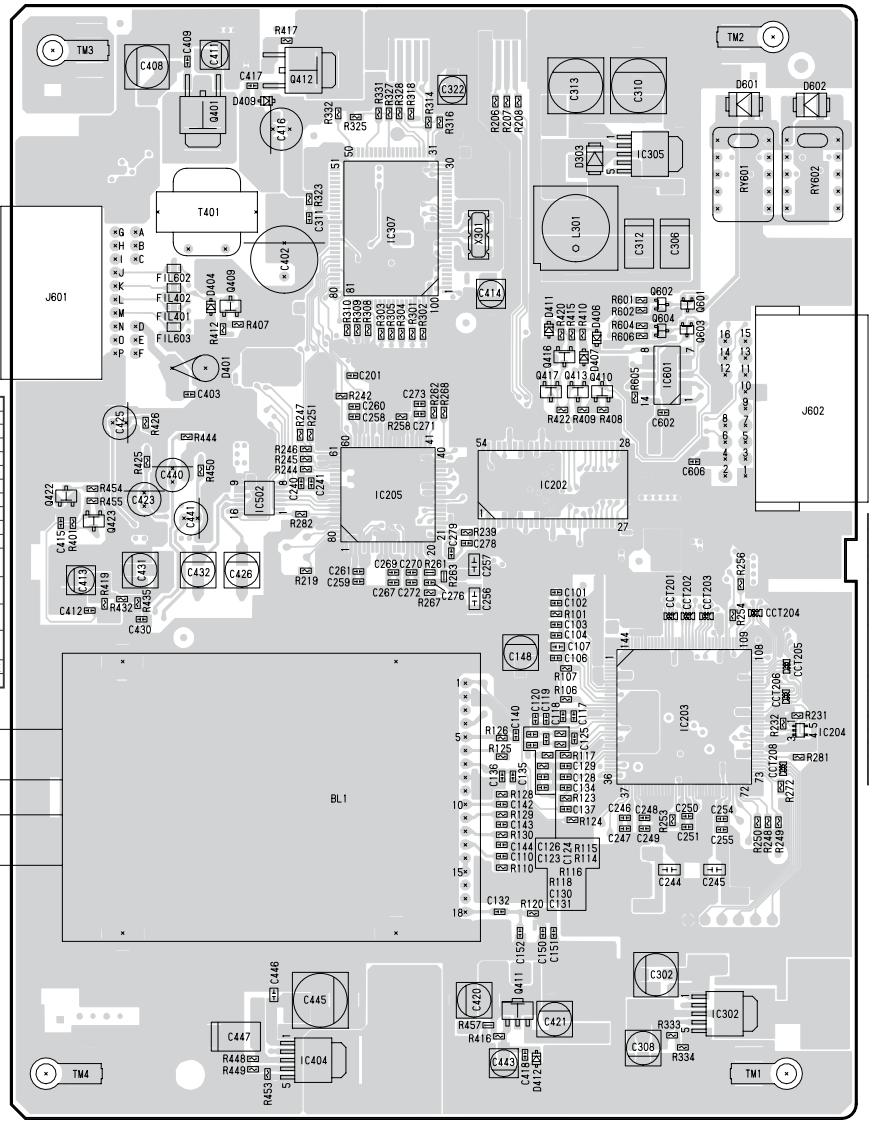
No.	Description
1	EARTH(CASE)
2	ACC
3	N.C
4	BACK UP
5	N.C
6	ILLUMI
7	N.C
8	RXD(COMBI TO CHG)

No.	Description
9	TXD(CHG TO COMBI)
10	SIGNAL EARTH
11	REQ(CHG TO COMBI)
12	DATA EARTH
13	CHG RCH(-)
14	CHG RCH(+)
15	CHG LCH(-)
16	CHG LCH(+)

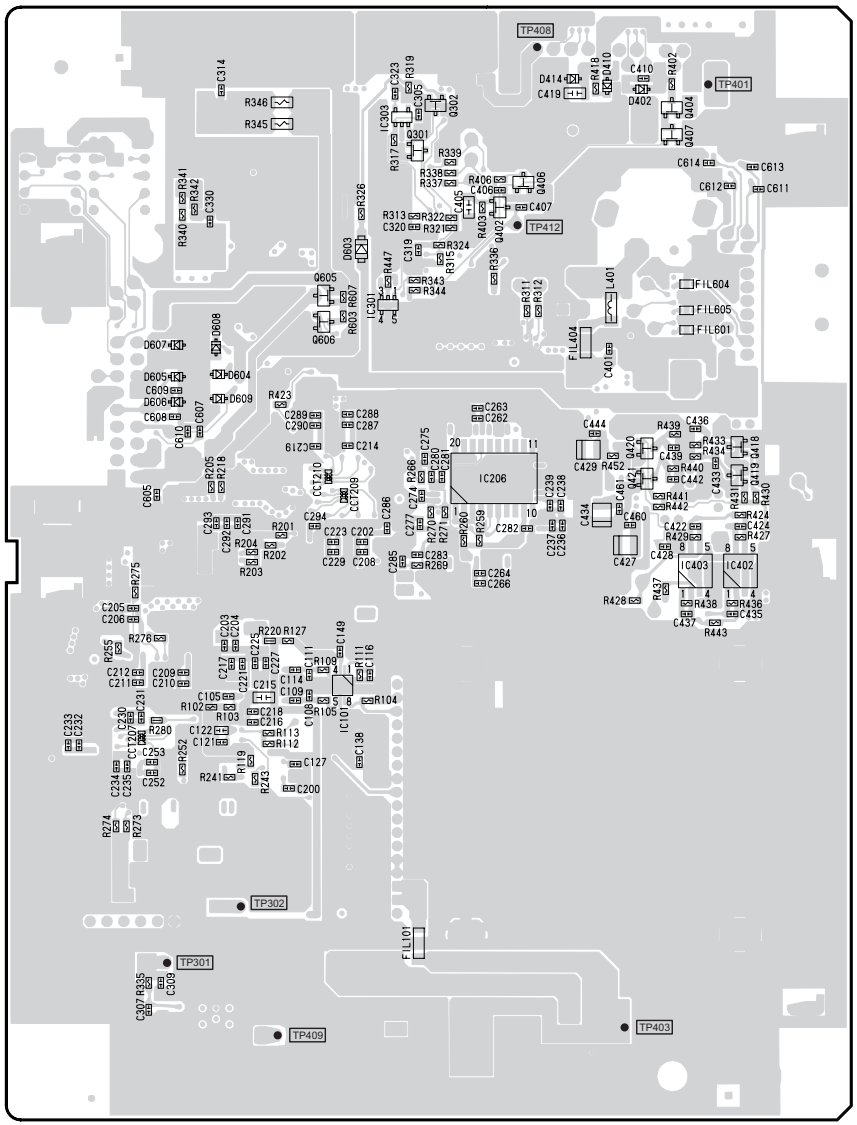
PRINTED WIRING BOARD

Main PWB(B1) section

COMPONENT SIDE



SOLDER SIDE



No.	Description
A	SAT LCH(+)
B	SAT RCH(+)
C	DATA EARTH
D	BACK UP
E	ILLUMI
F	ACC
G	SAT LCH(-)
H	SAT RCH(-)
I	SIGNAL EARTH
J	CONT
K	REQ1 (SAT TO COMBI)
L	TXD (SAT TO COMBI)
M	RXD (COMBI TO SAT)
N	REQ2 (CHG TO COMBI)
O	SOURCE CHANGE
P	EARTH(CASE)

No.	Description
1	EARTH(CASE)
2	ACC
3	N.C
4	BACK UP
5	N.C
6	ILLUMI
7	N.C
8	RXD (COMBI TO CHG)
9	TXD (CHG TO COMBI)
10	SIGNAL EARTH
11	REQ (CHG TO COMBI)
12	DATA EARTH
13	CHG RCH(-)
14	CHG RCH(+)
15	CHG LCH(-)
16	CHG LCH(+)

TP408 B/U_VDD

TP401 AUDIO_9V

TP412 NBUS_3.3V

TP302 VDD_2.5V

TP301 VDD_3.3V

TP403 VCCADC

TP409 DAC_3.3V

SATELLITE (YEL)

TERRESTRIAL (GRN)

Caution:
COMPONENT SIDE: Parts on the component side seen from the component side are indicated.
SOLDER SIDE: Parts on the solder side seen from the solder side are indicated.